

BIOM*3000 Functional Mammalian Neuroanatomy – Fall 2020 Course Syllabus & Outline

Course Instructor

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Office Hours: Face-to-Face or online – By Appointment only

Course Structure

This is an online lecture course (no lab).

Lectures: Wednesday & Friday

10:00am to 11:20am

All sessions LIVE via ZOOM (instruction on CourseLink)

Term tests will be held inside of lecture times on the following dates

Term Test 1: Wednesday, October 14th, 2020

Term Test 2: Monday, November 4th, 2020

Course Description

This course will introduce students to the anatomical organization and basic functional principles of the brain and nervous system. Knowledge of fundamental neuroscience will provide students with a better understanding of many biological processes that impact daily life, including learning, memory, and emotions. The course initially includes a review of the major cell types found in the nervous system and the basic physiological principles of brain function, and continues with an examination of functional systems by understanding the neuronal/anatomical circuitry of these systems. The relationship between normal

anatomy, physiology, and behavior will be the focus of the course, while clinical case studies will be utilized to illustrate common neurological diseases or events, to provide further insight into normal functioning and understanding of the consequences of when nervous system signaling goes awry.

Prerequisite(s): 1 of BIOM*3200, HK*3810 HK*3940, NEUR*2000, PHYS*2030, PSYC*2410, ZOO*3200, or ZOO*3600

Restriction(s): This is a priority access course. Enrolment may be restricted. Please visit the Department of Biomedical Sciences website for more information.

Credits: 0.5 CUEs

Course Goals

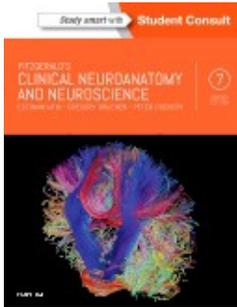
Neuroanatomy is the study of the anatomical and functional organization of the nervous system. The overarching goal of this course is to provide students with a detailed knowledge of the functional organization of the mammalian nervous system. This course will highlight the human nervous system as a mammalian model and will examine the gross and microscopic anatomy of the central nervous system. The fundamentally important relationship that exists between anatomy and physiology will be considered, so that students gain an understanding of the importance of normal structure to normal functioning. The use of clinically-based case studies will allow integration of course material and an understanding of how pathology or disease can affect normal functioning of the nervous system and in turn behavior.

Learning Objectives

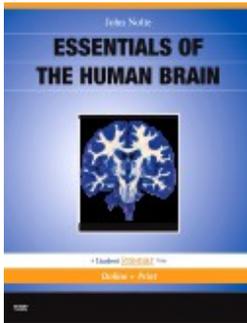
By the end of this course, students will be able to:

1. Identify major landmarks of the central nervous system and correlate these landmarks with function
2. Describe the basic structural and morphological stages of the development of the central nervous system
3. Integrate structure and function of the nervous system to explain physiological and behavioral responses to external and external stimuli
4. Effectively communication scientific ideas by constructing and giving a presentation based on a nervous system disease or pathology

Recommended Textbooks



Clinical Neuroanatomy & Neuroscience,
7th Edition
ISBN: 9780702058325



Essentials of the Human Brain
ISBN: 9780323045704

Course Assessment

Assessment Type	Weight	Description
Term Tests	20% each (40%)	Test #1: Week 5 (Lect 1-8) Test #2: Week 9 (Lect 9-13)
Case Study	20%	Presentation
Final Exam	40%	Comprehensive (Lect 1-14 + case studies)

Term Tests & Final Exam:

The term tests and final exam will consist of a combination of multiple choice, definitions, diagram labeling, and true/false questions. The term tests and final exam will be cumulative, covering all course materials (lectures & case studies) presented up to the test date. **IF YOU MISS A MIDTERM (ILLNESS, ETC), THERE WILL BE NO ALTERNATE TEST, THE WEIGHTING WILL BE TRANSFERRED TO THE FINAL EXAM....NO EXCEPTIONS!**

Case Studies:

Case studies will be presented in class throughout the second half of the course. Students will be randomly assigned into groups of 4-5 students and given

a patient clinical diagnosis. Groups will work together to prepare a complete case study on a patient and present this case to the class. Within the group presentation, students should address **normal** anatomy and functioning of pertinent nervous system structures and how this has been **altered** in the patient. See the course outline for the case study schedule. Presentations will be evaluated by Dr. Saleh. Case study is worth 15%, and pathophysiology flow chart is worth 5% for a total of 20%.

Course Policies & Procedures

Attendance/Classroom Etiquette

Students are expected to come to class on time and **turn cell phones to vibrate/silent** so as to not disrupt the lecture and fellow students.

Courselink

Will be used extensively throughout BIOM*3000. Please visit the site often to make sure you are up-to-date with any changes.

- **Lectures**: All lecture slides and other important course materials will be posted under the “Content” tab.
- **Announcements**: Any last minute changes and general announcements will be posted here.
- **Discussion Board**: These forums allow for students to ask questions and discuss what is being learned in class. Please direct all course content-related questions to the appropriate forum. Chances are that at least one other student has the same question too! Note that the instructor will monitor, but not answer questions in the forum. **This board WILL NOT BE MONITORED** (so please do not expect to receive any input from Dr. Saleh). Course-related questions should be directed to Dr. Saleh’s email.

Email Communication

As per university regulations, all students are required to check their @uoguelph.ca email account regularly. All emails from students must include the course code. All emails will be replied to within 24-48 hours.

Drop Date - Last class day

The last day to drop one-semester courses, without academic penalty.

Remark Policy

Requests for re-evaluation of a *term test* must be made, in writing, to Dr. Saleh within one week of return of the term test. All requests must include appropriate reasoning for why the student deserves additional marks. **Please be aware that an approval for a remark will result in the whole test being remarked.** This may result in an increase, decrease, or no change in the original mark of the term test.

Religious Observance

Information about the University of Guelph’s policy on academic accommodation of religious obligations can be found online.

<http://www.uoquelfh.ca/registrar/calendars/undergraduate/current>

Recording of Materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS, formerly Centre for Students with Disabilities). Documentation to substantiate the existence of a disability is required, however, interim accommodations may be possible while that process is underway. Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance, and not later than the 40th Class Day.

More information: www.uoquelfh.ca/sas

Academic Consideration for Missed Tests/Assignments

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact, as soon as possible. Please be aware that other exams, vacation, or work schedules are not valid excuses for missing coursework since you can plan ahead and make alternate arrangements if necessary

If the final exam is missed, application for a deferred exam must be made through a program counselor and The Office of the Registrar as outlined in the Academic Consideration and Appeals section of the Undergraduate Calendar.

See the undergraduate calendar for information on regulations and procedures for Academic Consideration.

<https://www.uoquelfh.ca/registrar/calendars/undergraduate/current/>

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting

an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar.
<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/>

Lecture Schedule

Note: This is to be used as a guide only. Changes may occur. Check CourseLink regularly.

Day	Lecture #	Topic	Chapter
Sept. 11	1	Introduction to Neuroanatomy/Cells of the NS	Chpt. 6
Sept. 16	2	Action Potentials & the Synapse/ Intro to Case Studies	Chpt. 7&8
Sept. 18	3	Embryology of the CNS	Chpt. 1&2
Sept. 23	4	Brain Topography & the Meninges	Chpt. 4
Sept. 25	5	Ventricles, CSF & Blood Supply	Chpt. 5
Sept. 30	6	Spinal Cord & Spinal Tracts	Chpt. 15&16
Oct. 2	7	Cranial Nerves I (Sophia Herrera)	Chpt. 18-23, 28
Oct. 7	8	Cranial Nerves II (Sophia Herrera)	Chpt. 18-23, 28
Oct. 9		No class – review material for midterm!	
Oct. 14		Term Test #1 (Lectures 1-8)	Respondus
Oct. 16	9	Organization of the Brainstem	Chpt. 17&24
Oct. 21	10	The Cerebral Cortex	Chpt. 29
Oct. 23	11	The Cerebellum	Chpt. 25
Oct. 28	12	Basal Ganglia	Chpt. 33
Oct. 30	13	Thalamus & Hypothalamus	Chpt. 27
Nov. 4		Term Test #2 (Lectures 9-13)	Respondus
Nov. 6	14	Hippocampus & Amygdala	Chpt. 34
Nov. 11		<i>Case Studies - 1, 2, 3</i>	ZOOM
Nov. 13		<i>Case Studies - 4, 5, 6</i>	ZOOM
Nov. 18		<i>Case Studies - 7, 8, 9</i>	ZOOM
Nov. 20		<i>Case Studies - 10, 11, 12</i>	ZOOM
Nov. 25		<i>Case Studies - 13, 14, 15</i>	ZOOM
Nov. 27		<i>Case Studies - 16, 17, 18</i>	ZOOM
Dec. 2		<i>Case Studies - 19, 20, 21</i>	ZOOM
Dec. 9	11:30-1:30	FINAL EXAM (Lectures 1-14 + case studies)	Respondus